

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/695,873	MATSUNAGA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Thai-Ba Trieu	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>10/30/2003</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                                 | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

## DETAILED ACTION

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

## EXAMINER'S AMENDMENT

The application has been amended as follows:

- On Page 13, line 22, "**a throttle vale 33**" has been replaced by – **a throttle valve 33** --, (for correcting typo error).
- On Page 14, line 26, "**rear earth**" has been replaced by –**rare earth**--, (for correcting typo error).

### *Allowable Subject Matter*

Claims 1-10 are allowed.

The following is an examiner's statement of reasons for allowance: The Prior Art fails to disclose or render obvious the claimed combination of an EGR-gas temperature estimation apparatus for an internal combustion engine including:

#### " Regarding claims 1 and 7:

*outlet EGR-gas temperature estimating means for estimating a temperature of the EGR gas on an outlet side of the EGR-gas cooling apparatus, on the basis of the EGR-gas temperature on the inlet side of the EGR-gas cooling apparatus and the obtained cooling efficiency."*

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

The IDS (PTO-1449) filed on October 30, 2003 has been considered. An initialized copy is attached hereto.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Hernandez et al. (Pub. Number US 2003/0226398 A1) disclose methods and apparatus for estimating the temperature of an exhaust gas recirculation valve coil.
- Brunemann et al. (Pub. Number 2003/0192516 A1) disclose a condensation protection AECD for an internal combustion engine employing cooled EGR.
- Hernandez (US Patent Number 6,622,548 B1) discloses methods and apparatus for estimating gas temperatures within a vehicle engine.
- Zagone (US Patent Number 6,434,476 B1) discloses high-voltage fault discrimination for EGR temperature sensor.
- Kreso (US Patent Number 6,347,519 B1) discloses a system and a method for measuring recirculation exhaust gas flow in a compression-ignition engine.
- Akao et al. (US Patent Number 6,708,676 B2) discloses an EGR control unit and EGR control method.

- Cullen et al. (US Patent Number 6,116,083) discloses an exhaust gas temperature estimation.
- Wang et al. (US Patent Number 6,085,732) disclose an EGR fault diagnostic system.
- Fukuma (Patent Number 6,000,385) discloses a combustion engine with EGR apparatus.
- Shibata et al. (Patent Number JP 2002129996 A) disclose exhaust emission control device for an internal combustion engine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (703) 308-6450. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB  
June 20, 2004



Thai-Ba Trieu  
Patent Examiner  
Art Unit 3748